

Importance of the Indo-Pacific oceanic connection for forecasting El Nino.

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The oceanic heat content derived from in situ and satellite measurements in the tropical Pacific exhibits decadal trends since 1980. The near-equatorial trends resemble those of the South tropical Pacific, but tend to be opposite to the North. Over each region, the oceanic trends are in quasi-Sverdrup balance with the observed winds. The heat content over the entire tropical

Pacific (OHC) reveals exchanges with the extra-tropics and the Indian Ocean.

Estimates of the Indonesian Throughflow (ITF) are derived using sea

level data and Indian or Pacific ocean models driven by observed winds.

It is demonstrated with a coupled ocean-atmosphere model of the Pacific

that prescribing ITF variations at the western boundary of the Pacific

has a very strong and positive impact on the ability of the model to predict El Nino.